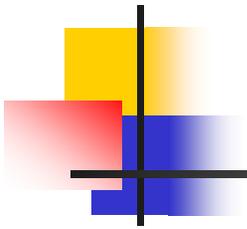


Global Standards: Carrying Capacity in the Networked Economy

D. Linda Garcia

Presentation to the NIST Panel

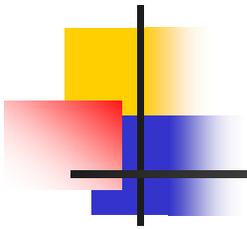
February 13, 2006

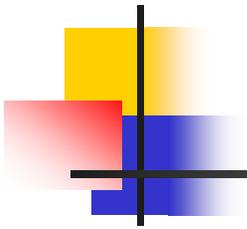


What Are Standards?

- Descriptions, characterizations of the properties of a thing or process.
- Prescriptions, criteria against which the performance of a thing or process can be evaluated.

What Purposes Do Standards Serve?

- 
-
- Generate efficiencies by reducing information-related (transaction) costs.
 - Facilitate interaction & coordination by promoting common meaning systems.
 - Promote innovation by promoting new combinations via interoperable components.
 - Limit behaviors by prescribing a set of constraints.



The Standards Universe

	Control Standards	Product Standards	Process Standards
Bottom-up de-facto	Traffic conventions	Popular fads— Beanie Babies	Language
Top-down prescribed	Hours of Children's TV	Weights & Measures	Air Traffic Control Systems
Negotiated Collective Action	AMA standards for practitioners	Building Supplies	W3C standards

Why is Carrying Capacity Important?

Independent variable



Intervening variables



Dependent variable



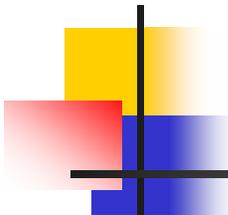
Why Did the Industrial Revolution Foster Standards?

As Emile Durkheim pointed out: Complexity generated the need for specialization, while specialization gave rise to the need for greater integration—standards provided the glue.

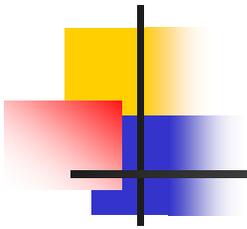


As James Beniger has pointed out: the complexity associated with industrialization engendered the need for greater control.

Standards Served a Myriad of Interests



- Producers—generated economies of scale and scope; provided trademarks to differentiate products.
- Suppliers—reduced transaction costs, allowing for expanded trade.
- Manufacturers—efficiency in mass production, reduced transformation costs.
- Consumers—reduced costs, quality standards in packaging, health and safety.
- Government—greater efficiency in procurements, standards also provided a means of control, as well as fostered macro economic growth and development.

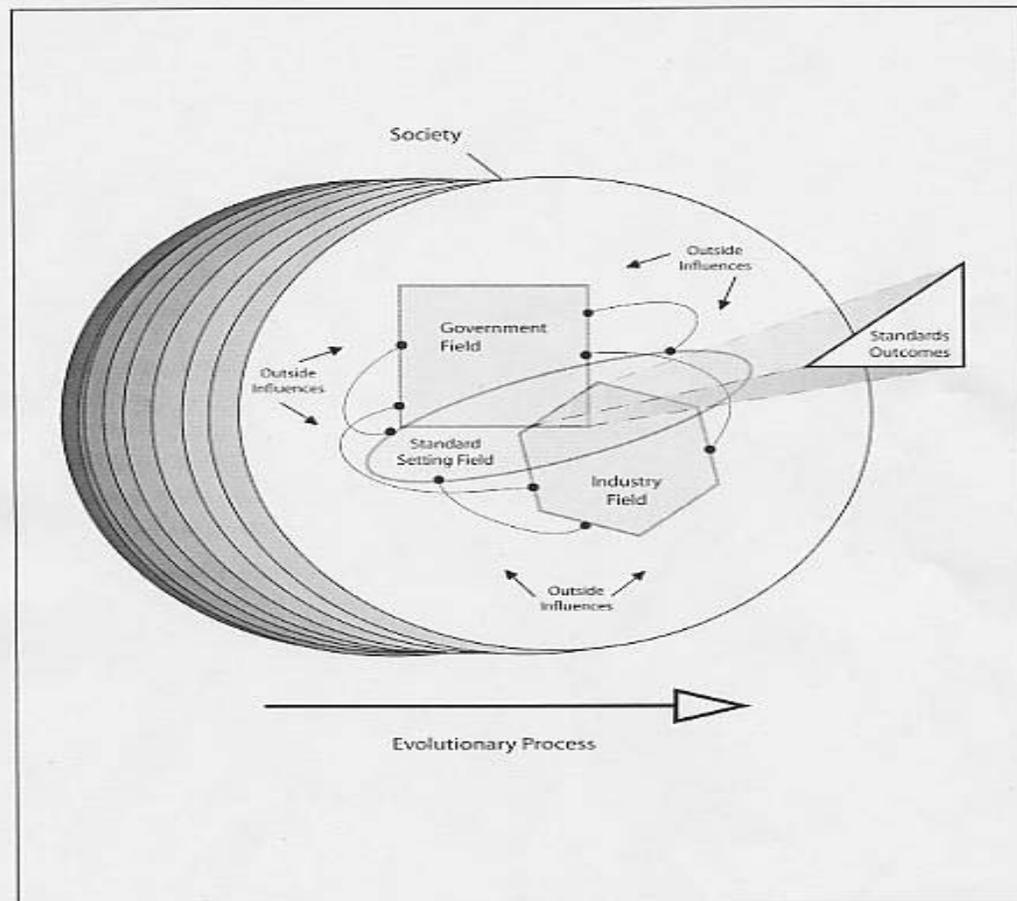


What Are the Standards Needs/Issues in the Networked Economy?

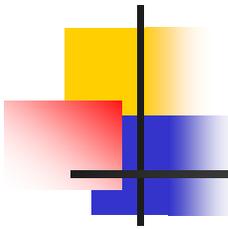
Function	Capability	Societal Issues
Efficiency	Information Sharing	Privacy/IPR
Innovation	Knowledge management	IPR
Facilitation	Process interactions	Accessibility
Control	Manage Complexity	Vulnerability

Achieving Standards is More Complex? Intervening Variables are More Pronounced!

Figure 1: Standard Setting as a Complex Adaptive Process



Design courtesy of L.A. Kirg



A Menu of Government Roles

- Rule (market) maker
- Educator
- Broker
- Promoter
- Regulator

A Changing Role for Government?

